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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,595	10/23/2003	Jae Suk Sung	2336-215	6743

7590 01/11/2005

LOWE HAUPTMAN GILMAN & BERNER, LLP  
Suite 310  
1700 Diagonal Road  
Alexandria, VA 22314

EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/690,595	<b>Applicant(s)</b> SUNG, JAE SUK	
	<b>Examiner</b> Minh D A	<b>Art Unit</b> 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 13 is/are rejected.
- 7) ☒ Claim(s) 3-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/08/04</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being unpatentable by Moore (US 2002/0135521A1).

Regarding claim 1, Moore discloses an multi-band PIFA antenna for portable devices comprising: a power feed unit (19) for feeding power to the antenna; a ground unit (18 or 20) for grounding the antenna; and a first radiation unit (12) formed in a band shape with a designated width, having one end connected to the power feed unit (19) and the other end connected to the ground unit (18 or 20), arranged along an edge of an upper surface of a dielectric support unit (24) for supporting the antenna so as to form a loop-shaped current path, and radiating at a designated low frequency band using a current introduced through the power feed unit (19). See figures 1-4, col.1, lines [0010] to col.2, lines [0013] to lines [0017].

Regarding claim 2, Moore discloses wherein the power feed unit (19) or the ground unit (18 or 20) is arranged at an end of side surface of the dielectric support unit (24) for supporting the antenna. See figures 1-4.

***Claim Rejections - 35 USC § 103***

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Moore (US 2002/013552 A1) in view of Byun et al (US 2003/0016178 A1).

Regarding claim 13, Moore discloses the claimed invention except for the mobile communication terminal is a folder type terminal. However, Byun discloses the mobile communication terminal is a folder type terminal. See abstract.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ the mobile communication terminal is a folder type terminal such as that suggested by Byun in the antenna device of Moore for mobile communication terminal, since it will easily to receive and transmit signal.

#### ***Allowable Subject Matter***

5. Claims 3-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach that, a second radiation unit formed in a band shape with a designated width,' connected to an inner side of the left radiation unit of the first

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radiation unit, arranged on an upper surface of the dielectric support unit and radiating at a designated high frequency band using current introduced through the power feed unit recited in dependent claim 3.

The prior art does not teach that, a third radiation unit formed in a band shape with a designated width, connected to an outer side of the left radiation unit of the first radiation unit, arranged on a left side or lower surface of the dielectric support unit for supporting the antenna, and radiating at a designated high frequency band using current introduced through the power feed unit recited in dependent claim 4.

The prior art does not teach that, wherein the dielectric support unit has an approximately hexahedral shape, and the first radiation unit is divided into a left radiation unit, an upper radiation unit, a right radiation unit and a lower radiation unit according to their positions arranged on an upper surface of the support unit recited in dependent claim 9.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vance (US 2004/0252061 A1) and Braun et al (US 6,392,610) are cited to show an antenna device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

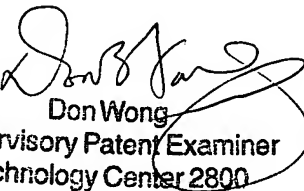
Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

Examiner

Minh A

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1/5/05

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800